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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,657	12/21/2000	Hidenori Nishikawa	JP9 1999 0204 US1	6991

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EXAMINER

MAHMOUDI, HASSAN

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 12/17/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,657

Applicant(s)

NISHIKAWA, HIDENORI

Examiner

Tony Mahmoudi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 14.

- 4) ☐ Interview Summary (PTO-415) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DOV POPOVICI
SUPERVISOR, PATENT EXAMINER
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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's Request for Continued Examination (RCE) submission filed on 17-November-2003 has been entered. In addition, the "After Final" amendment filed on 14-October-2003 has been entered as a preliminary amendment for this continued examination.

Remarks

2. In response to communications filed on 14-October-2003, claims 6 and 7 are amended per applicant's request. Claims 1-11 are presently pending in the application.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in

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section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Mital et al (U.S. Patent No. 6,189,012.)

As to claim 1, Mital et al teaches a database system, for storing and managing data that are used by application programs to execute a specific operation (see Abstract), comprising:

a hierarchical node database wherein data used for the application programs are stored as node data in data records (see Abstract, and see figures 1 and 9.)

a hierarchical link table (see column 8, lines 24-30, and see figures 1, 4, and 9), provided for each of the application programs (see column 8, lines 53-58), wherein relationship data (see column 11, lines 45-51), which define the hierarchical structure of the node data that are stored in the hierarchical node database, are stored as data entries in the data records (see figure 9.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mital et al (U.S. Patent No. 6,189,012) in view of Fehskens et al (U.S. Patent No. 6,438,591.)

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As to claim 2, Mital et al teaches hierarchical link table (see column 8, lines 24-30, and see figures 1, 4, and 9.)

Mital et al does not teach wherein effective period data that define effective periods for the data records are stored as data entries in the data records.

Fehskens et al teaches an entity management system (see Abstract), in which he teaches wherein effective period data that define effective periods for the data records (see column 29, line 60 through column 30, line 10) are stored as data entries in the data records (see column 30, lines 29-36.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Mital et al to include wherein effective period data that define effective periods for the data records are stored as data entries in the data records.

It would have been obvious to a person having ordinary skill in the art to have modified Mital et al by the teaching of Fehskens et al, because wherein effective period data that define effective periods for the data records are stored as data entries in the data records, would enable the user to define effective periods (start, end, and duration times) for data elements and would further enable the user to obtain information on data such as the values of particular data elements at or during a certain period of time.

As to claim 3, Mital et al as modified teaches wherein, in the hierarchical node database, the effective period data that define the effective periods for the data records (see Fehskens et al, column 29, line 60 through column 30, line 10) are stored as data entries in individual data

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fields (see Fehskens et al, column 28, line 61 through column 29, line 2, and see column 30, lines 29-36.)

7. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mital et al (U.S. Patent No. 6,189,012) in view of Fehskens et al (U.S. Patent No. 6,438,591) as applied to claims 2-3 above, and further in view of Suver (U.S. Patent No. 6,016,497.)

As to claim 4, Mital et al as modified teaches wherein each of the data records in the hierarchical node database (see Mital et al, figures 1 and 9) includes a fixed-length column in which only data entries having a constant size are stored (see Mital et al, column 5, lines 54-65, and see figures 2-4.)

Mital et al as modified does not teach wherein each of the data records includes a variable-length column in which only data having variable sizes are stored.

Suver teaches a method and system for storing and accessing embedded information in object-relational databases (see Abstract), in which he teaches the data records includes a variable-length column in which only data having variable sizes are stored (see column 9 lines 15-26.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Mital et al as modified to include wherein each of the data records includes a variable-length column in which only data having variable sizes are stored.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Mital et al as modified, by the teachings of Suver, because the data records includes a variable-length column in which only data having

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variable sizes are stored, would prevent the data objects' decomposed into atomic elements, and as further taught by Suver, "variable-length rows are typically much smaller than flat, dense, fixed-length representations. Therefore, more rows of data will fit on each disk page, which improves effective disk input/output and memory cache efficiency (see Suver, column 27, lines 12-17.)

As to claim 5, Mital et al as modified teaches the database system further comprising a cycle control table in which cycle data are entered to define execution timings for the application programs that execute operations at constant time intervals (see Fehskens et al, column 3, line 66 through column 4, line 13, where "cycle control table" is read on "commands specifying a time schedule", and "time intervals" is read on "associated time".)

Allowable Subject Matter

8. Claims 6-11 are allowed over the prior art made of record.
9. The following is a statement of reasons for allowance:

The prior art of record, Mital et al (U.S. Patent No. 6,189,012), Fehskens et al (U.S. Patent No. 6,438,591), Suver (U.S. Patent No. 6,016,497), and Lynch-Aird (U.S. Patent No. 6,240,402), do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

a hierarchical node database for storing node data to be used by *a first and a second application program*;

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a first hierarchical link table for defining a first unique hierarchical structure of the node data for use when the first application program is run, wherein the first hierarchical link table includes an identifier that identifies the first application program; and

a second hierarchical link table for defining a second unique hierarchical structure of the node data for use when the second application program is run, wherein the second hierarchical link table includes an identifier that identifies the second application program, as claimed in claim 6.

Claims 7-11 are allowed because they are dependent from the allowed independent claim 6.

Response to Arguments

10. Applicant's arguments filed on 14-October-2003 with respect to the newly amended claims 6-11 in view of the cited references have been fully considered but they are moot in view of allowance of those claims (claims 6-11.)

Applicants arguments with respect to rejection of claims 1-5 in view of the cited references have been fully considered but are not found persuasive and/or have already been addressed by the examiner in the Final Rejection Office Action (paper number 11).

In response to applicant's arguments that Mital et al fails to teach "providing multiple hierarchical link tables for use by different application programs, which allows each different application program to use the same node data, but in a different hierarchical structure", the

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arguments have been fully considered but are not found persuasive, because "*multiple hierarchical link tables*" for use by "*different application programs*", which "*allows each different application program to use the same node data, but in a different hierarchical structure*" is not recited in the rejected claim. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Claim 1 recites "application programs" using the data stored in a database system to execute a specific operation. Mital et al teaches data manipulation by applications in multiple diverse computer systems (see Abstract). In addition, Mital et al teaches the invention utilizing "programs external to the system of this invention" throughout the reference (see, for instance, column 8, lines 53-58, and column 23, lines 16-19.)


Conclusion

11. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Tony Mahmoudi whose telephone number is (703) 305-4887. The examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici, can be reached at (703) 305-3830.

tm

December 11, 2003



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